



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/824,188	04/02/2001	Zhijiang Wang	021169000500	8367

20350 7590 01/07/2004

TOWNSEND AND TOWNSEND AND CREW, LLP  
TWO EMBARCADERO CENTER  
EIGHTH FLOOR  
SAN FRANCISCO, CA 94111-3834

EXAMINER

MENEFEE, JAMES A

ART UNIT	PAPER NUMBER
----------	--------------

2828

DATE MAILED: 01/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application N .

09/824,188

Applicant(s)

WANG ET AL.

Examiner

James A. Menefee

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

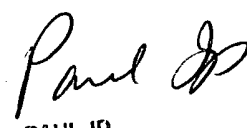
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 9 and 10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9 and 10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

  
PAUL IP  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/24/2003 has been entered. Accordingly claims 1-8 are cancelled and claims 9-10 added. Claims 9-10 are pending.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fermann (US 2002/0172486, see Fig. 6c in particular) in view of DiGiovanni (US 5,949,941).

Regarding claim 9, Fermann discloses a process for fabricating an optical fiber having the steps of providing a core doped with active species, providing an inner cladding surrounding the core, the inner cladding having a first polygon profile with discrete sides adjoining one another at a first set of angles wherein light can be reflected within the inner cladding about the core doped with active species along paths having local modes which do not intersect the core doped with active species, and providing an outer cladding surrounding the inner cladding.

Fermann further discloses altering the first polygon profile of the inner cladding to a second asymmetric and symmetry-broken polygon profile having a second set of angles about the core doped with active species, the second asymmetric and symmetry-broken polygon profile of the inner cladding departing from the first polygon profile with the first set of angles by having small angular changes to at least two of the angles whereby the polygon has a second set of angles. The limitations regarding the local modes are deemed to be inherent characteristics of the device, as the structural limitations regarding the process are met.

It is not disclosed that at least one boundary of the asymmetric and symmetry broken polygon be changed to the shape of an arc. DiGiovanni teaches that it is known to alter the shape of an inner cladding so that at least one boundary, which previously had been part of a polygon, is changed to the shape of an arc. It would have been obvious to one skilled in the art to alter a boundary of the polygonal inner cladding of Fermann to provide good mode-mixing that provides for a polarization maintaining fiber that is useful for laser applications, as taught by DiGiovanni.

Regarding claim 10, it is not disclosed that the first polygon profile is a rectangle. However, rectangular shaped claddings are well known in the art. See e.g. the references cited herein but not relied upon, and the prior art figs. of DiGiovanni. It would have been obvious to one skilled in the art to use a rectangular cladding rather than the hexagonal cladding above, because the courts have found that a change in shape is evidence of obviousness, and a rectangular cladding is easier to produce than a hexagon. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

*Response to Arguments*

Applicant's arguments with respect to claims 9-10 have been considered but are moot in view of the new ground(s) of rejection.

*Conclusion*

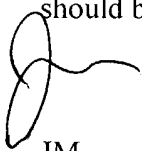
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They disclose fibers having either asymmetrical claddings, or claddings having arc shaped portions.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Menefee whose telephone number is (703) 605-4367. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (703) 308-3098. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Due to the USPTO move, Examiner Menefee's and Supervisor Ip's telephone numbers will change in January 2004 to (703) 272-1944 and (703) 272-1941 respectively.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



JM  
December 18, 2003

  
PAUL IP

SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800